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the careful scrutiny of Mr. Johnson. Upon so very delicate and complicated an instrument, no *positive* opinion can well be formed until the observer has thoroughly mastered its manipulation, and ascertained the degree of consistency of its results. Mr. Johnson has already found that it can be directed and read off with facility, (the illumination of the scale at the object glass is successfully obtained by a wire heated by powerful magnets,) and that the images of all stars, except the brightest, are round and free from wings when seen through the halved glasses. An instrument of such optical perfection can scarcely fail, in the hands of so delicate and scrupulous an observer as Mr. Johnson, to prove a most powerful engine in carrying on a large and very important class of investigations which have hitherto not been sufficiently attended to in this country, for want of means.

W. S. Jacob, Esq., F.R.A.S., and late Captain in the Bombay Engineers, has been appointed to the Observatory at Madras by the Hon. Court of Directors. As an amateur observer, Capt. Jacob's zeal and talents have been already amply shewn in the publications of this Society. He has now a wide field for distinguishing himself and his patrons, the East India Company.

Professor Wackerbarth states, on Mr. J. M. Kemble's authority (Saxons in England), that the Saxon yard was about one-tenth longer than the modern yard, or that 100 Saxon yards = 110 English yards. The value of the Saxon yard is so nearly identical with the metre, 1·0936 yards, that the Professor is inclined to suggest the possibility of the Saxon yard being actually derived from a former measure of the earth, made at a period beyond the range of history, the results of which have been preserved during many centuries of barbarism.

Some Remarks on Falling Stars by Mr. Lowe.*

Mr. Lowe gives the following epochs when falling stars are said to be abundant:—

April 22ᵈ to 25ᵈ	Nov. 12ᵈ to 14ᵈ
July 17 .. 26	Nov. 27 .. 29
Aug. 9 .. 11	Dec. 6 .. 12

To which he adds from his own observation, Oct. 16ᵈ to 18ᵈ. There are many occurrences in January, but the days do not appear to be fixed.

Mr. Lowe then states by whom observations have been made at the foregoing epochs, and when and where.

The August epoch has been observed every year since 1841, and is said by Mr. Lowe to be the most certain.

The November epoch, 12ᵈ to 14ᵈ, seems also well fixed, but has in late years been surpassed by the August epoch in brilliancy.

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* Further particulars will be found in the forthcoming Report of the British Association, "Catalogue of Observations on Luminous Meteors," by Professor Powell; and "Some Remarks on Luminous Meteors," by E. J. Lowe, Esq.

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The epochs, Nov. 27^d–29^d, and Dec. 6^d–12^d, are somewhat doubtful, so far as Mr. Lowe's observations extend.

The October epoch has been observed in 1843, 4, 6, 7, and 8, but has not, so far as Mr. Lowe knows, been usually considered an epoch.

On referring back the paths of meteors, it is found that a considerable number diverge from the same point in the heavens; thus, during the July period of the present year, and up to the 9th of August, the paths of the meteors, if produced backwards, would nearly meet at a point to the east of *α Cygni.*

In 1848, of 80 meteors seen on August 19th, the paths of 55 were recorded; 23 came from *Cygnus*, 26 from *Cassiopeia*, and 6 were discordant. In 1847 out of 13, 5 came from *Cygnus* and 8 from *Cassiopeia.* This is confirmed by other observers. It seems very probable that this divergence was merely apparent, and that the meteors were nearly parallel to each other.

On the 16th of August last, Mr. Lowe was surprised to see a number of very small meteors, but brilliant for their size (being only the apparent size of the smallest fixed star on a clear night), which moved more slowly, and occupied a smaller portion of the heavens than on the 10th. He attributes this difference to their greater distance.

On the 10th of last August Mr. Lowe observed that out of 55 meteors there were 11 cases in which one star followed another in the same track nearly, and after an interval varying from 2 minutes to 15 seconds. When a meteor follows another in the same path, it has invariably been noticed that it also moves with the same speed. From this circumstance, together with the fact that such meteors are frequently very different in size, it may be supposed that the two bodies are connected. If this be so, then a meteor at 10^h 29^m had two attendants. This suggestion, if confirmed, would also shew that these bodies are material.

Mr. Lowe conceives that in our present state of knowledge of these curious appearances, we might conveniently arrange them in three classes.

1st. Falling stars, which leave luminous streaks behind them.

2d. Stars which do not leave such streaks.

3d. Luminous bodies, with defined discs.

The first probably shine by inherent light, for otherwise it is difficult to account for a luminous streak which lasts several seconds (in some cases even minutes) after the meteor itself has disappeared. The second may shine by reflected light, as described by Sir John Lubbock, and the third are probably atmospheric, as they chiefly move in discordant paths, are various in shape, and not unfrequently change colour.

On the 8th of last August, at 10^h 16^m, a meteor of a conical form, about twice the apparent size of a star of the first magnitude, moved slowly in a horizontal direction from *ζ Boötis*, about 1° below *Arcturus* (it left numerous sparks in its track). Here it suddenly disappeared, and re-appeared in about 1^s and

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about 1°½ further on. Thus it had moved in the same track, though invisible. On its reappearance it was neither so large nor so brilliant as before, and gave the impression of a body moving rapidly and nearly directly *from* the observer. It was orange-red, and was visible about 5^s besides the time of disappearance. The length of its path after its reappearance was about 3°. The disappearance might be accounted for by supposing the meteor to shine by borrowed light, and to have passed through the umbra of some solid body. Sir John Lubbock suggests that it may have passed through the shadow of the earth.

At Castle Lecky, Newtown-Linawady, County of Londonderry, Mr. Webb saw (Nov. 1^d, at 11^h P.M.) in the north, a descending meteor, which having fallen a considerable distance in an inclined straight line, diverged suddenly (to the west) on approaching towards a dense cloud. The meteor described a curved path, concave to the cloud, by which it was evidently diverted, and then disappeared.

ERRATUM.

Vol. IX. p. 221, *Ceres*, July 13, Comp^d—Obs^d R.A., *for* $+12^s{\cdot}64$ *read* $+11^s{\cdot}64$.

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